

Pending Claims

1. (Currently amended) A substantially pure nucleic acid encoding a lineage-37 (LIN-37) polypeptide that is free of the genes which, in the naturally-occurring genome of the organism, flank the gene, said polypeptide having ~~about 50% or greater~~ at least 85% amino acid sequence identity to SEQ ID NO: 1, wherein said polypeptide ~~has the ability to alter~~ is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

2. (Cancelled)

3. (Cancelled)

4. (Original) The nucleic acid of claim 1, wherein said nucleic acid is cDNA.

5. (Original) The nucleic acid of claim 1, wherein said nucleic acid is *C.elegans* DNA.

6. (Original) The nucleic acid of claim 1, wherein said nucleic acid is human DNA.

7. (Currently amended) A substantially pure DNA encoding the amino acid sequence of SEQ ID NO: 1 that is free of the genes which, in the naturally-occurring genome of the organism, flank the gene, wherein said DNA encodes a polypeptide ~~having~~

~~the ability to alter~~ that is hydrophilic, acts non-cell autonomously, and inhibits cell
proliferation.

8-9. (Cancelled)

10. (Currently amended) A substantially pure synMuv nucleic acid comprising nucleic acid having ~~about 50% or greater~~ at least 85% nucleotide sequence identity to the DNA sequence of SEQ ID NO:2, wherein said nucleic acid encodes a polypeptide ~~having~~
~~the ability to alter~~ that is hydrophilic, acts non-cell autonomously, and inhibits cell
proliferation.

11. (Original) The nucleic acid of claim 1, wherein said DNA is operably linked to regulatory sequences for expression of said polypeptide and wherein said regulatory sequences comprise a promoter.

12. (Original) The nucleic acid of claim 11, wherein said promoter is a constitutive promoter.

13. (Original) The nucleic acid of claim 11, wherein said promoter is inducible by one or more external agents.

14. (Original) The nucleic acid of claim 11, wherein said promoter is cell-type specific.

15. (Original) A vector comprising the nucleic acid of claim 1, said vector being capable of directing expression of the peptide encoded by said DNA in a vector-containing cell.

16. (Currently amended) A cell which contains a substantially pure nucleic acid encoding a lineage-37 (LIN-37) polypeptide that is free of the genes which, in the naturally-occurring genome of the organism, flank the gene, said polypeptide having ~~about 50% or greater~~ at least 85% amino acid sequence identity to SEQ ID NO: 1, wherein said polypeptide ~~has the ability to alter~~ is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

17. (Currently amended) The ~~isolated~~ cell of claim 16, said cell being present in a patient having a condition involving altered cell proliferation.

18. (Currently amended) A transgenic cell which contains a substantially pure nucleic acid encoding a lineage-37 (LIN-37) polypeptide having ~~about 50% or greater~~ at least 85% amino acid sequence identity to SEQ ID NO: 1, wherein said polypeptide ~~has the ability to alter~~ is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

19-24. (Cancelled)

25. (Currently amended) A substantially pure lineage-37 (*lin-37*) nucleic acid having ~~about 50%~~ at least 85% or greater nucleotide sequence identity to SEQ ID NO: 2 isolated according to the method comprising:

- (a) providing a cell sample;
- (b) introducing by transformation into said cell sample a candidate *lin-37* nucleic acid;
- (c) expressing said candidate *lin-37* nucleic acid within said cell sample; and
- (d) determining whether said cell sample exhibits ~~an altered~~ a decrease in a cell proliferation response, whereby ~~an altered level of~~ a decrease in cell proliferation identifies a *lin-37* nucleic acid.

26-33. (Cancelled)

34. (Currently amended) A substantially pure, naturally-occurring nucleic acid encoding a lineage-37 (LIN-37) polypeptide that is free of the genes which, in the naturally-occurring genome of the organism, flank the gene, said polypeptide having ~~50% or greater~~ at least 85% amino acid sequence identity to the amino acid sequence of SEQ ID NO: 1, wherein said polypeptide ~~has the ability to alter~~ is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

35. (Cancelled)

36. (Previously added) The nucleic acid of claim 1, wherein said nucleic acid encodes a LIN-37 polypeptide that has 95% or greater amino acid sequence identity to the amino acid sequence of SEQ ID NO:1.

37. (Cancelled)

38. (Currently amended) The nucleic acid of claim ~~37~~ 1, wherein said nucleic acid encodes a LIN-37 polypeptide that has the ability to decrease cell proliferation by 50%.

39. (Currently amended) The nucleic acid of claim ~~37~~ 1, wherein said nucleic acid encodes a LIN-37 polypeptide that has the ability to decrease cell proliferation by one-fold.

40. (Currently Amended) A substantially pure, naturally-occurring synMuv nucleic acid comprising nucleic acid having ~~50%~~ at least 85% or greater nucleotide sequence identity to the nucleotide sequence of SEQ ID NO: 2, wherein said nucleic acid encodes a polypeptide ~~having the ability to alter~~ that is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

41. (Cancelled)

42. (Previously added) The synMuv nucleic acid of claim 10, wherein said synMuv nucleic acid comprises a nucleic acid sequence that has 95% or greater nucleotide sequence identity to the nucleotide sequence of SEQ ID NO:2.

43. (Cancelled)

44. (Currently Amended) The synMuv nucleic acid of claim ~~43~~ 10, wherein said synMuv nucleic acid encodes a polypeptide that has the ability to decrease cell proliferation by 50%.

45. (Currently Amended) The synMuv nucleic acid of claim ~~43~~ 10, wherein said synMuv nucleic acid encodes a polypeptide that has the ability to decrease cell proliferation by one-fold.

46. (Currently amended) A cell which contains a substantially pure naturally occurring nucleic acid encoding a lineage-37 (LIN-37) polypeptide that is free of the genes which, in the naturally-occurring genome of the organism, flank the gene, said polypeptide having ~~50%~~ at least 85% or greater amino acid sequence identity to SEQ ID

NO: 1, wherein said polypeptide ~~has the ability to alter~~ is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

47. (Cancelled)

48. (Previously added) The cell of claim 16, wherein said nucleic acid encodes a LIN-37 polypeptide that has 95% or greater amino acid sequence identity to the amino acid sequence of SEQ ID NO:1.

49. (Cancelled)

50. (Currently amended) The cell of claim ~~49~~ 16, wherein said nucleic acid encodes a LIN-37 polypeptide that has the ability to decrease cell proliferation by 50%.

51. (Currently amended) The cell of claim ~~49~~ 16, wherein said nucleic acid encodes a LIN-37 polypeptide that has the ability to decrease cell proliferation by one-fold.

52. (Currently amended) A transgenic cell which contains a substantially pure naturally-occurring nucleic acid encoding a lineage-37 (LIN-37) polypeptide having ~~50%~~ at least 85% or greater amino acid sequence identity to SEQ ID NO: 1, wherein said

polypeptide ~~has the ability to alter~~ is hydrophilic, acts non-cell autonomously, and inhibits cell proliferation.

53. (Cancelled)

54. (Previously added) The transgenic cell of claim 18, wherein said nucleic acid encodes a LIN-37 polypeptide that has 95% or greater amino acid sequence identity to the amino acid sequence of SEQ ID NO:1.

55. (Cancelled)

56. (Currently amended) The transgenic cell of claim ~~55~~ 18, wherein said nucleic acid encodes a LIN-37 polypeptide that has the ability to decrease cell proliferation by 50%.

57. (Currently amended) The transgenic cell of claim ~~55~~ 18, wherein said nucleic acid encodes a LIN-37 polypeptide that has the ability to decrease cell proliferation by one-fold.

58. (Currently amended) A substantially pure, naturally-occurring *lineage-37* (*lin-37*) nucleic acid having ~~about 50%~~ at least 85% or greater nucleotide sequence identity to SEQ ID NO: 2 isolated according to the method comprising:

- (a) providing a cell sample;
- (b) introducing by transformation into said cell sample a candidate *lin-37* nucleic acid;
- (c) expressing said candidate *lin-37* nucleic acid within said cell sample; and
- (d) determining whether said cell sample exhibits ~~an altered~~ a decrease in a cell proliferation response, whereby ~~an altered~~ a decreased level of cell proliferation identifies a *lin-37* nucleic acid.

59. (Cancelled)

60. (Previously added) The *lin-37* nucleic acid of claim 25, wherein said *lin-37* nucleic acid has 95% or greater nucleotide sequence identity to the nucleotide sequence of SEQ ID NO: 2.

61. (Currently amended) A substantially pure, naturally-occurring *lineage-37* (*lin-37*) nucleic acid having about ~~50%~~ 85% or greater nucleotide sequence identity to SEQ ID NO: 2 isolated according to the method comprising:

- (a) providing a cell sample;
- (b) introducing by transformation into said cell sample a candidate *lin-37* nucleic acid;
- (c) expressing said candidate *lin-37* nucleic acid within said cell sample; and

(d) determining whether said cell sample exhibits ~~an altered~~ a decreased cell proliferation response, whereby a decreased level of cell proliferation identifies a *lin-37* nucleic acid.

62. (Cancelled)

63. (Previously added) The *lin-37* nucleic acid of claim 62, wherein said *lin-37* nucleic acid has the ability to decrease cell proliferation by 50%.

64. (Previously added) The *lin-37* nucleic acid of claim 62, wherein said *lin-37* nucleic acid has the ability to decrease cell proliferation by one fold.